

CLAIMS

1. . A method for delivering a coherent jet of grinding coolant to a grinding wheel, said method comprising:
determining a desired flowrate of coolant for a grinding operation;
obtaining a grinding wheel speed at an interface of a grinding wheel with a workpiece;
determining coolant pressure required to generate a coolant jet speed that matches the grinding wheel speed;
determining a nozzle discharge area capable of achieving the flowrate at the pressure; and
determining a nozzle configuration.
2. . The method of claim 1 , wherein said determining a desired flowrate comprises using a width of the grinding zone.
3. . The method of claim 1 , wherein said determining a desired flowrate comprises using power consumption during the grinding operation.
4. . The method of claim 1 , wherein said determining a nozzle configuration comprises determining a number and pitch of nozzles.
5. . The method of claim 1 , wherein said determining a nozzle configuration comprises determining to use a nozzle having an asymmetrical transverse cross-section.
6. . The method of claim 1 , wherein said determining a nozzle configuration comprises determining to use a nozzle having a rectangular transverse cross-section.

7. . A grinding tool kit comprising:
- a dressing roller sized and shaped to impart a profile to a grinding wheel;
 - a dressing module sized and shaped for being coupled to a plenum chamber;
 - said dressing module including a plurality of coherent jet dressing nozzles;
 - said dressing nozzles being sized and shaped for supplying coolant from the plenum chamber to a dressing zone of the grinding wheel;
 - a grinding module sized and shaped for being coupled to another plenum chamber;
 - said grinding module including a plurality of coherent jet grinding nozzles;
 - and
 - said grinding nozzles being sized and shaped for supplying coolant from the other plenum to a grinding zone of the grinding wheel.